

What is claimed is:

1. A magnetic recording medium comprising:
a non-magnetic substrate;
a layer comprising aluminum (Al) or an Al alloy on the substrate, the layer having a substantially uniform pattern thereon; and
5 a magnetic layer; wherein,
the pattern is substantially replicated on the magnetic layer to form a data zone.
2. The magnetic recording medium according to claim 1, further comprising a laser textured landing zone.
3. The magnetic recording medium according to claim 1, wherein the pattern comprises a substantially honeycomb pattern of aluminum oxide formed by anodization.
4. The magnetic recording medium according to claim 3, wherein the honeycomb pattern comprises substantially hexagonal cells.
5. The magnetic recording medium according to claim 4, wherein the cells have a diameter of about 50Å to about 5000Å and a depth of about 50Å to about 10,000Å.
6. The magnetic recording medium according to claim 1, wherein the Al or Al alloy layer has a thickness of about 50Å to about 5000Å.

7. The magnetic recording medium according to claim 6, wherein the Al or Al alloy layer has a thickness of about 500Å to about 1500Å.

8. The magnetic recording medium according to claim 1, further comprising:

a seedlayer directly on the patterned Al or Al alloy layer;

5 an underlayer on the seedlayer and;
the magnetic layer on the underlayer.

9. The magnetic recording medium according to claim 8, wherein:

the substrate comprises a nickel phosphorus plated Al or Al alloy;

5 the seedlayer comprises nickel aluminum;
the underlayer comprises chromium vanadium; and
the magnetic layer comprises a cobalt-chromium-platinum-tantalum alloy.

10. The magnetic recording medium according to claim 1, wherein the substrate comprises nickel-phosphorus plated aluminum or aluminum alloy, or a glass, ceramic or glass-ceramic material.

11. A method of manufacturing a magnetic recording medium, the method comprising:

forming a layer of aluminum (Al) or Al alloy on a non-magnetic substrate;

5 forming a substantially uniform pattern on the Al or Al alloy layer; and

 forming a magnetic layer; wherein,

 the pattern is substantially replicated on the magnetic layer to form a data zone.

12. The method according to claim 11, comprising forming the pattern by anodizing the Al or Al alloy layer, wherein the pattern comprises aluminum oxide.

13. The method according to claim 12, comprising anodizing the Al or Al alloy layer to form a substantially honeycomb pattern containing substantially hexagonal cells.

14. The method according to claim 13, wherein the cells have a diameter of about 50Å to about 5000Å and a depth of about 50Å to 10,000Å.

15. The method according to claim 11, comprising sputter depositing the Al or Al alloy layer to a thickness of about 50Å to about 5000Å.

16. The method according to claim 15, comprising sputter depositing the Al or Al alloy to a thickness of about 500Å to about 1500Å.

17. The method according to claim 13, comprising anodizing with a solution comprising about 1% to about 15% hydrogen phosphate for about 1 to about 15 minutes.

18. The method according to claim 11, comprising laser texturing the substrate to form a textured area which is substantially replicated on the magnetic layer to form a landing zone.

19. The method according to claim 11, comprising:
sputtering depositing a seedlayer directly on the patterned Al or Al alloy layer;

5 sputter depositing an underlayer on the seedlayer; and
sputter depositing a magnetic layer on the underlayer.

20. The method according to claim 19, wherein:
the substrate comprises nickel-phosphorous plated Al or an Al alloy;

5 the seedlayer comprises nickel aluminum;
the underlayer comprises chromium vanadium; and
the magnetic layer comprises an alloy of cobalt-chromium-platinum-tantalum.